CLAIMS

What is claimed is:

1. A surgical system, comprising:

an outer sleeve which has an aspiration port that is in fluid communication with an inner channel of said outer sleeve;

an inner sleeve that is located within said inner channel of said outer sleeve;

a motor that moves said inner sleeve within said inner channel, said motor can operate at a maximum speed and a reduced speed; and,

a foot pedal that is coupled to said motor and moves between an upward position where said motor operates at the maximum speed and a depressed position where said motor operates at the reduced speed.

2. The system as recited in claim 1, further comprising a vacuum line that is coupled to said inner sleeve, a variable regulator valve that is coupled to said vacuum line and said foot pedal, and a controller that is coupled to said variable regulator valve and said foot pedal, said foot pedal having a switch that can be actuated to place said controller in a variable speed mode so that said motor speed can be controlled through said foot pedal or a variable pressure mode so

that a pressure of said vacuum line is controlled through said foot pedal.

3. The system as recited in claim 1, further comprising a controller that is coupled to said motor and said foot pedal and which controls a distal movement of said inner sleeve.

4. The system as recited in claim 2, further comprising an exhaust valve that couples said vacuum line to an atmosphere when said motor speed reaches a predetermined speed.

5. The system as recited in claim 1, further comprising a controller and a driver circuit which provide a series of digital pulses to said motor.

6. The system as recited in claim 1, further comprising a slider that has a groove and a key surface, a wobble plate that is coupled to said motor and extends into said groove, and a controller which controls said motor so that said wobble plate is aligned within said groove when said motor is in a start condition.

7. The system as recited in claim 1, further comprising a cable that couples said motor to said inner sleeve.

8. A surgical system, comprising:

a surgical cutter;

a vacuum source that provides a vacuum pressure to said surgical cutter;

a variable regulator valve that controls the vacuum pressure;

a controller that provides an output signal to said variable regulator valve; and,

an input device that provides an input signal to said controller.

9. The system as recited in claim 8, further comprising a pressure transducer that provides a feedback signal to said controller.

10. The system as recited in claim 8, further comprising an exhaust valve that couples said vacuum source to an atmosphere.

11. The system as recited in claim 8, wherein said input device is a foot pedal.

12. A surgical device, comprising:

a handpiece;

a motor that is attached to said handpiece;

a wobble plate that is connected to said motor;

a slider that is coupled to said wobble plate, said slider having a key surface;

an outer sleeve that is coupled to said handpiece;

an inner sleeve that is attached to said slider and can move relative to said outer sleeve.

13. The system as recited in claim 12, further comprising a controller that aligns said wobble plate with said groove of said slider when said motor is in a start condition.

14. A surgical system, comprising:

an outer sleeve that has an aspiration port which is in fluid communication with an inner channel of said outer sleeve;

an inner sleeve that is located within said inner channel;

a motor that moves said inner sleeve within said inner channel; and,

a cable that couples said motor to said inner sleeve.

15. A surgical system, comprising:

an outer sleeve that has an aspiration port which is in fluid communication with an inner channel of said outer sleeve;

an inner sleeve that is located within said inner channel;

a motor that moves said inner sleeve relative to said outer sleeve, said motor operates at a motor speed;

a vacuum system that provides a vacuum pressure at said aspiration port;

a valve that controls the vacuum pressure;

a controller that controls said motor and said valve, said controller being operative in either a variable speed mode which controls said motor speed or a variable pressure mode which controls the vacuum pressure; and,

an input device that is coupled to said controller, said foot pedal having a switch that can switch said controller between said variable speed mode and said variable pressure mode.

16. The system as recited in claim 15, further comprising an exhaust valve that is coupled to said vacuum system and said controller.

17. The system as recited in claim 15, wherein said valve is a variable regulator valve.

18. The system as recited in claim 15, wherein said input device is a foot pedal.

19. A surgical device, comprising:

an outer sleeve that has an aspiration port which is in fluid communication with an inner channel of said outer sleeve; and,

an inner sleeve that is located within said inner channel, said inner sleeve having a tip that exerts a spring force on said outer sleeve.

20. The device as recited in claim 19, wherein said inner sleeve has a pair of slits.

21. A motor comprising:

a rotor;

a coil that is coupled to said rotor;

a stop magnet that is coupled to said rotor to stop said rotor in a stop position.

22. The motor as recited in claim 21, further comprising an inner sleeve that is coupled to said rotor.

23. A surgical device, comprising:

a handpiece;

an outer sleeve that is coupled to said handpiece;

an inner sleeve that can move relative to said outer sleeve;

a solenoid that is attached to said handpiece; and,

a spring that couples said solenoid to said inner sleeve.

24. The device as recited in claim 23, wherein said handpiece includes a stop that limits the movement of said spring and said inner sleeve.

25. A surgical device, comprising:

a handpiece;

a motor located within said handpiece, said motor having an output shaft;

an electrically insulative wobble plate that is attached to said output shaft;

an electrically insulative slider that is coupled to said wobble plate;

an outer sleeve that is coupled to said handpiece; and,

an inner sleeve that is coupled to said slider and which moves relative to said outer sleeve.

26. The device as recited in claim 25, further comprising an electrically insulative cap that is attached to said handpiece and which encloses said slider and said wobble plate.